REMARKS

The Office Action dated May 21, 2002 has been carefully considered and this reply prepared in response. Reconsideration of the rejections to the application are respectfully requested in view of the amendment above and the following remarks.

The Office Action indicated that claims 1-3, 7-8, 11, and 15-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,936,312 issued to Koide et al. in view of U.S. Patent No. 5,668,430 issued to Kolomeitsev. The Office Action further stated that claims 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Koide et al. in view of Kolomeitsev and further in view of U.S. Patent No. 5,418,413 issued to Satomi. The Office Action also rejected claims 17-21 under 35 U.S.C. § 103(a) as being unpatentable over Koide et al. in view of Kolomeitsev and further in view of U.S. Patent No. 4,785,213 issued to Satake.

Applicant notes that the Office Action Summary indicates claims 1-21 are rejected; however, the Office Action provides no basis for explanation for rejection of claims 4-6, 9 and 10. Applicant notes that these claims were subject to a rejection under 35 U.S.C. § 112, first paragraph, in the Office Action dated December 3, 2001, for containing subject matter not described in the specification. Applicant's Amendment and Reply filed March 4, 2002 included sufficient amendments to the drawings and the specification to resolve the rejections under 35 U.S.C. § 112. Applicant respectfully submits that the amendments and arguments provided in applicant's March 4, 2002 reply render claims 4-6, 9 and 10 allowable. In order to place these claims in condition for immediate allowance, claims 4, 6, 9 and 10 have been amended to render them in independent form by adding all subject matter of the claims from which they depend (claim 5 depends from amended claim 4 and therefore is not amended). Claims 4, 6, 9 and 10 are identical in scope to the unamended versions of these

claims, and therefore, these amendment do not form the basis for prosecution estoppel. Accordingly, Applicant requests the Examiner to indicate allowance of claims 4-6, 9 and 10 in the next communication.

Applicant further notes that the office Action Summary does not indicate approval or disapproval of the proposed drawing correction that was filed with the reply on March 4, 2002. Applicant respectfully requests consideration of the proposed drawing correction.

Applicant renews its argument that the Koide reference does not teach the current control as recited in the claims. Specifically, Koide discloses two current control devices that supply two independent, i.e., not composite, currents to the two stators. The controller 180 according to Koide et al. supply current Iv1 to the first motor MG1 while supplying current Iv2 to the second motor MG2. The current Iv1 is not supplied to the second motor MG2 and the current Iv2 is not supplied to the first motor MG1. So there is no composite current in the device of Koide et al. None of the cited references disclose or suggest providing such a composite current to the coils to generate different rotating magnetic fields.

In contrast, claim 1 recites a single current control device that supplies a single composite current which comprises a first alternating current that generates a first rotating magnetic field and a second alternating current that generates a second rotating magnetic field is supplied to each of the coils. The amendment to claim 1 further clarifies this distinction.

Since independent claim 1 as amended recites structure that is not disclosed in the cited references, Applicant respectfully considers the claim is allowable and a withdrawal of the rejection is respectfully requested. Further, Applicant respectfully requests withdrawal of the rejections to the claims that depend from allowable claim 1.

Similarly, independent claim 17 recites a single current control device that supplies a single composite current which comprises a first alternating current supplied to the first coils and a second alternating current supplied to the second coils. Since this structure is not disclosed in the cited references, Applicant respectfully considers that claim 17 is allowable and a withdrawal of the rejection is respectfully requested. Further, Applicant respectfully requests withdrawal of the rejections to the claims that depend from allowable claim 17.

Applicant considers that the application is now in condition for allowance and a notice to the effect is respectfully requested.

If the Examiner has questions regarding this amendment, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

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THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY DEFICIENCY OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 19-0741.

Marked-up Version(s) of Amended Claim(s)

1. (Amended) A motor/generator comprising:

a first rotation shaft;

a first rotor rotating with the first rotation shaft and having a first number of magnetic poles that form a first magnetic field;

a second rotation shaft rotating relative to the first rotation shaft and supported co-axially with the first rotation shaft;

a second rotor rotating with the second rotation shaft and having a second number of magnetic poles that form a second magnetic field, the first number and the second number being different, the first rotor and the second rotor being disposed in series along the first rotation shaft;

a stator provided with coils [that] -- each of which -- [generate] -- generates -- a first rotating magnetic field in synchronism with the first magnetic field by application of a first alternating current, and generates a second rotating magnetic field in synchronism with the second magnetic field by application of a second alternating current; and

a current control device that supplies a composite current comprising the first alternating current and the second alternating current to -- each of -- the coils.

4. (Amended) A motor/generator comprising:

a first rotation shaft;

a first rotor rotating with the first rotation shaft and having a first number of magnetic poles that form a first magnetic field;

a second rotation shaft rotating relative to the first rotation shaft and supported co-axially with the first rotation shaft;

a second rotor rotating with the second rotation shaft and having a second number of magnetic poles that form a second magnetic field, the first

number and the second number being different, the first rotor and the second rotor being disposed in series along the first rotation shaft;

a stator provided with coils that generate a first rotating magnetic field in synchronism with the first magnetic field by application of a first alternating current, and generate a second rotating magnetic field in synchronism with the second magnetic field by application of a second alternating current, wherein the stator is disposed facing an outer periphery of the first rotor and the second rotor, and wherein the stator is provided with a plurality of core units separated in a peripheral direction, each core unit is provided with a first core facing an outer periphery of the first rotor and a second core facing an outer periphery of the second rotor and magnetically connected with the first core, and a magnetic reluctance between adjacent core units is set to be greater than a magnetic reluctance between the first core and the second core of the same core unit, and [The motor/generator as defined in Claim 3,] wherein each core unit is further provided with a third core magnetically connecting the first core and the second core[.]; and

a current control device that supplies a composite current comprising the first alternating current and the second alternating current to the coils.

6. (Amended) A motor/generator comprising:

a first rotation shaft;

a first rotor rotating with the first rotation shaft and having a first number of magnetic poles that form a first magnetic field;

a second rotation shaft rotating relative to the first rotation shaft and supported co-axially with the first rotation shaft;

a second rotor rotating with the second rotation shaft and having a second number of magnetic poles that form a second magnetic field, the first number and the second number being different, the first rotor and the second rotor being disposed in series along the first rotation shaft;

a stator provided with coils that generate a first rotating magnetic field in synchronism with the first magnetic field by application of a first alternating current, and generate a second rotating magnetic field in synchronism with the second magnetic field by application of a second alternating current, wherein the stator is disposed facing an outer periphery of the first rotor and the second rotor, and wherein the stator is provided with a plurality of core units separated in a peripheral direction, each core unit is provided with a first core facing an outer periphery of the first rotor and a second core facing an outer periphery of the second rotor and magnetically connected with the first core, and a magnetic reluctance between adjacent core units is set to be greater than a magnetic reluctance between the first core and the second core of the same core unit, and [The motor/generator as defined in Claim 3,] wherein the first core comprises magnetic steel plates laminated in the direction of the first rotation shaft, and the second core comprises magnetic steel plates laminated in the direction of a periphery of the stator[.]; and

a current control device that supplies a composite current comprising the first alternating current and the second alternating current to the coils.

9. (Amended) A motor/generator comprising:

a first rotation shaft;

a first rotor rotating with the first rotation shaft and having a first number of magnetic poles that form a first magnetic field;

a second rotation shaft rotating relative to the first rotation shaft and supported co-axially with the first rotation shaft;

a second rotor rotating with the second rotation shaft and having a second number of magnetic poles that form a second magnetic field, the first number and the second number being different, the first rotor and the second rotor being disposed in series along the first rotation shaft;

a stator provided with coils that generate a first rotating magnetic field in synchronism with the first magnetic field by application of a first alternating current, and generate a second rotating magnetic field in synchronism with the second magnetic field by application of a second alternating current, wherein the stator is disposed facing an outer periphery of the first rotor and the second rotor, and wherein the stator is provided with a plurality of core units separated in a peripheral direction, each core unit is provided with a first core facing an outer periphery of the first rotor and a second core facing an outer periphery of the second rotor and magnetically connected with the first core, and a magnetic reluctance between adjacent core units is set to be greater than a magnetic reluctance between the first core and the second core of the same core unit, and [The motor/generator as defined in Claim 3,] wherein the stator is accommodated in a case that has a passage of liquid coolant, and supported inward by the case[.]; and

a current control device that supplies a composite current comprising the first alternating current and the second alternating current to the coils.

10. (Amended) A motor/generator comprising:

a first rotation shaft;

a first rotor rotating with the first rotation shaft and having a first number of magnetic poles that form a first magnetic field;

a second rotation shaft rotating relative to the first rotation shaft and supported co-axially with the first rotation shaft;

a second rotor rotating with the second rotation shaft and having a second number of magnetic poles that form a second magnetic field, the first number and the second number being different, the first rotor and the second rotor being disposed in series along the first rotation shaft;

a stator provided with coils that generate a first rotating magnetic field in synchronism with the first magnetic field by application of a first

alternating current, and generate a second rotating magnetic field in synchronism with the second magnetic field by application of a second alternating current, wherein the stator is disposed facing an outer periphery of the first rotor and the second rotor, and wherein the stator is provided with a plurality of core units separated in a peripheral direction, each core unit is provided with a first core facing an outer periphery of the first rotor and a second core facing an outer periphery of the second rotor and magnetically connected with the first core, and a magnetic reluctance between adjacent core units is set to be greater than a magnetic reluctance between the first core and the second core of the same core unit;

[The motor/generator as defined in Claim 3, wherein the motor/generator comprises] a magnetic shield surrounding an outer periphery of the stator[.]; and

a current control device that supplies a composite current comprising the first alternating current and the second alternating current to the coils.